Course Description Form

1. Course Name:
Deciduous Fruit 2
2. Course Code
DEFR 309
3. Semester / Year:
Second Semester/three stage/ 2024-2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
In-person + Online
6. Number of Credit Hours (Total) / Number of Units (Total)
2 Theoretical + 3 Practical / 3.5
7. Course administrator's name (mention all, if more than one name)
Name:Assant. Prof.Dr.Ayad Taraq Mahmoud Email: jassim@uomosul.edu.iq Name: Dr.Yusra Mohammad Saleh Email: yousra.ms@uomosul.edu.iq
8. Course Objectives

Theoretical: 1. Introducing students to the most important types of deciduous fruits that can be successfully cultivated in Iraq. 2. Study the most important environmental requirements necessary for the successful cultivation of some types of deciduous fruits. 3. Enabling students to understand the most important horticultural operations that must be carried out in the orchards of some types of deciduous fruits. 4. Teaching students about the most important methods of propagation of some types of deciduous fruits and their most important origins.	Practical: 1- Introducing students to the importance of deciduous fruit trees through their economic importance and botanical description, in addition to the most important foundations for dividing and classifying fruits. 2- Study the most important factors affecting the growth and production of deciduous fruits. 3- Enabling the student to propagate some types of deciduous fruits by sexual or vegetative propagation methods. 4- Enabling students to carry out trainning and pruning operations for some deciduous fruit trees.

5. Introducing students to the most important types of each type of fruit studied.	5- Teaching students the scientific foundations of establishing deciduous fruit orchards, in addition to how to perform some service operations such as irrigation, fertilization, trainning, thinning, pruning, and harvesting.

9. Teaching and Learning Strategies

Theoretical 1- Live lectures with students. 2- PowerPoint slides. 3- Introduction pictures. 4- Audio recordings. 5- Dialogues and discussion. 6- Assigning tasks and reports	Practical: 1- Live lectures with students. 2- PowerPoint slides. 3- Scientific visits to fruit orchards. 4- Applying some practical tasks in nursery facilities? 5- Dialogues and discussions with students. 6- Assigning tasks and reports

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 Theoretical 3 practical	theoretical: The student masters the scientific name of peaches and learns the most important characteristics of peach trees, the appropriate environment, the most important principles, and methods of growing transplants in the orchard. practical: The student masters the methods of vegetative propagation of deciduous fruit trees	theoretical: Peaches: scientific name, distribution, economic importance, botanical description, climate, soil, propagation, methods for establishing a peach orchard, planting seedlings in the orchard. practical: Propagation by cuttings, types of stem cuttings, stages of emergence of adventitious roots on cuttings, factors affecting the emergence of roots from cuttings	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical: Assigning practical tasks and reports	Short exams, assignments, discussions
2	2 Theoretical 3 practical	Theoretical The student masters the nature of fruit bearing and all horticultural service operations for peach orchards. practical :	theoretical: Peaches: pruning and trainning, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues	Short exams, assignments, discussions

		The student masters the method of preparing cuttings for deciduous fruits.	thinning, harvesting, indications of fruit maturity, varieties. practical: Methods of preparing woody stem cuttings, semi-tender cuttings, young cuttings, and root cuttings	and discussion practical: Assigning practical tasks and reports	
3	2 Theoretical 3 practical	theoretical: The student learns the most important types of pears, their scientific names, tree specifications, the appropriate environment for them, the most important principles, and methods of planting stransplants in the orchard. practical: The student is familiar with grafting deciduous fruit trees.	theoretical: Pears: scientific name, distribution, economic importance, botanical description, types of pears, climate, soil, propagation, methods for establishing a pear orchard, planting seedlings in the orchard. practical: Vaccination methods, vaccination dates, tools used in vaccination	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
4	2 Theoretical 3 practical	Theoretical The student is familiar with the nature of fruit bearing and all horticultural service operations for pear orchards. practical : The student learns about the installation process.	theoretical: Pears: pruning and breeding, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: Installation, installation methods, mismatch phenomenon, mismatch correction method	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
5	2 Theoretical 3 practical	theoretical: The student knows the scientific name of apricot and learns	theoretical: Apricot: scientific name, distribution, economic	Theoretical: Live lectures, PowerPoint	Short exams, assignments, discussions

		about the most important characteristics of trees, the appropriate environment, the most important principles, and methods of planting seedlings in the orchard. practical: The student learns about other propagation methods, such as layering and suchurs	importance, botanical description, climate, soil, propagation, methods of establishing an apricot orchard, planting seedlings in the orchard. practical: Layering, what are its advantages and disadvantages, the number of layering methods, factors that affect the success of reproduction by layering? How suchurs reproduces	slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	
6	2 Theoretical 3 practical	Theoretical The student learns about tree flowering, the nature of fruit bearing, and all horticultural service operations for apricot orchards. practical : The student learns about the most important origins of deciduous fruits	theoretical: Apricots: pruning and breeding, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: Types of rootstocks, conditions for good rootstocks, seed roots of apples, vegetative roots of apples, seed and vegetative roots of pears	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
7	2 Theoretical 3 practical	theoretical: The student is familiar with the scientific name of almonds, the characteristics of trees, the appropriate environment for them, the most important principles,	theoretical: Almonds: scientific name, distribution, economic importance, botanical description, climate, soil, propagation,	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues	Short exams, assignments, discussions

		and methods of planting seedlings in the orchard. practical: The student masters the method of planting seedlings.	methods for establishing an almond orchard, planting seedlings in the orchard, first monthly exam. practical: Method of planting deciduous fruit seedlings, conditions that must be taken into account when establishing a fruit orchard, planting systems, factors affecting planting distances, planting windbreaks, planting temporary trees.	and discussion practical : Assigning practical tasks and reports	
8	2 Theoretical 3 practical	Theoretical The student masters the nature of bearing fruits and all horticultural service operations for almond orchards. practical : The student masters the most important methods of trainning and pruning deciduous fruit trees	theoretical: Almonds: pruning and trainning, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: Pruning, goals of pruning, trainning methods, advantages and disadvantages of trinning methods	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
9	2 Theoretical 3 practical	theoretical: The student is familiar with the types of cherries, their scientific names, tree specifications, the appropriate environment for them, the most important principles, and methods of planting seedlings in the orchard.	theoretical: Cherry: scientific name, distribution, economic importance, botanical description, climate, soil, propagation Ways to create a cherry orchard, planting seedlings in the orchard. practical:	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical	Short exams, assignments, discussions

		practical: The student is familiar with the methods of pruning fruits and pruning renewal.	pruning, the purpose of fruiting pruning, renewal pruning, methods of renewal pruning	tasks and reports	
10	2 Theoretical 3 practical	Theoretical The student learns about the flowering of trees, the nature of fruit bearing, and all horticultural service operations for orchards Cherry. practical : The student learns about methods of irrigating fruit trees	theoretical: Cherry: pruning and trainning, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit thinning, harvesting, indications of fruit maturity, varieties. practical: The importance of water for fruit trees, methodes to irrigate fruit trees	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
11	2 Theoretical 3 practical	theoretical: The student masters the scientific name of pistachios, the characteristics of trees, the appropriate environment for them, the most important principles, methods of planting seedlings in the orchard, and all tree horticultural service operations. practical: The student masters fertilizing fruit trees.	theoretical: Pistachios: scientific name, distribution, economic importance, botanical description, climate, soil, propagation, methods for establishing a pistachio orchard, planting seedlings in the orchard, irrigation, fertilization Flowering and pollination, the nature of bearing fruits, harvesting fruits, and indications of fruit maturity. practical: Fertilizer, types of fertilizers, methods for diagnosing nutrient deficiency in trees, main rules, benefits of	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions

			adding organic fertilizer to sandy soils.		
12	2 Theoretical 3 practical	theoretical: The student learns about the types of walnuts, their scientific names, the characteristics of trees, the appropriate environment for them, the most important principles, and methods of planting seedlings in the orchard. practical: The student learns about the processes of pollination and fertilization	theoretical: Walnut: Scientific name, distribution, economic importance, botanical description, climate, soil, propagation, methods of establishing a walnut orchard, planting seedlings in the orchard. practical: Pollination, types of pollination, good characteristics of the pollinated variety, pollinator distribution systems in the orchard, self-sterility, factors affecting lack of fruiting.	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
13	2 Theoretical 3 practical	Theoretical The student is familiar with the nature of fruit bearing and all horticultural service operations for walnut orchards. practical : The student is familiar with the knotting of fruits and the thinning of fruits.	theoretical: Walnuts: pruning and breeding, irrigation, fertilization, flowering and pollination, the nature of fruit bearing, fruit bearing, harvesting, indications of fruit maturity, varieties, a second monthly exam. practical: Fruit setting, fruit growth, stages of fruit growth, fruit thinning, fruit thinning methods	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions
14	2 Theoretical 3 practical	theoretical: The student masters the scientific name of the orchard and learns the most	theoretical: Pecan: scientific name, distribution, economic importance,	Theoretical: Live lectures, PowerPoint slides,	Short exams, assignments, discussions

		important characteristics of trees, their flowering, and the appropriate environment for them, the most important principles, methods of planting seedlings in the orchard, and various service operations. practical: The student learns about the reasons for the fall of flowers and fruits and the ripening of fruits.	botanical description, climate, soil, propagation, methods of establishing a pecan orchard, planting seedlings in the orchard, irrigation, fertilization Flowering and pollination, the nature of bearing fruits, harvesting fruits, and indications of fruit maturity. practical: Waves of falling, causes of falling flowers and newly set fruits, falling of fruits before harvesting, changes in fruits upon maturity	introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	
15	2 Theoretical 3 practical	Theoretical The student learns about the most important types of cultivated fruits, methods of propagation, and the various service operations that take place in the nursery. practical : A scientific trip to one of the nearby fruit orchards or nurseries.	theoretical: A scientific trip to one of the nearby nurseries and a report on the most important horticultural operations taking place in the nursery. practical: Writing a report on the most important propagated plants and horticultural operations carried out in the nursery.	Theoretical: Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion practical : Assigning practical tasks and reports	Short exams, assignments, discussions

11.Course Evaluation

Evaluation Methods	Evaluation date (week)	Degree	Percentage (%)
Daily spoken examination	Theoretical: 2-15 Practical: 2 – 15	Theoretical 3 Practical 2	5%
Daily written exams	Theoretical: 2-15 Practical: 2 – 15	Theoretical 5 Practical 5	10%
2 semester exams during the semester	Theoretical: 7-13 Practical: 6 – 14	Theoretical 10 Practical 5	15%

for both practical and theoretical			
Assigning students to prepare reports on study topics	Theoretical: 15 Practical: 15	Theoretical 7 Practical 3	10%
Final exam	Theoretical Practical	Theoretical 40 Practical 20	40% 20%
Total		100	100%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Deciduous fruit production (Part 2), authored by Dr. Youssef Hanna Youssef .
Main references (sources)	Deciduous fruit technology (Part 2), written by Prof. Dr. Jassim Mohammed Alwan. 2. Scientific and practical foundations for establishing and servicing orchids Deciduous leaves, written by Prof. Dr. Jassim Mohammad Alwan.
Recommended books and references (scientific journals, reports...)	Horticulture Scince , American Soc.Hort. Sci.
Electronic References, Websites	FAO reports, bulletins and studies

Theoretical lecturer:
;Prof. Dr. Jassim Mohammed Alwan

Practical lecturer
Yusra Mohammed Saleh

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